

THE GENUS *CYCLOSTRONGYLUS* JOHNSTON & MAWSON (NEMATODA: TRICHONEMATIDAE)

by PATRICIA M. MAWSON*

Summary

MAWSON, P. M. (1977).—The genus *Cyclostrongylus* Johnston & Mawson (Nematoda: Trichonematidae). *Trans. R. Soc. S. Aust.* **101**(1), 19-20, 28 February, 1977.

Cyclostrongylus is redefined. The type species of the genus *Oesophagonastes* (*O. gallardi*), is a synonym of *C. wallabiae*, so this genus falls and its species are transferred to *Cyclostrongylus*. *Cyclostrongylus* spp. considered valid are *C. wallabiae* (type sp.), *C. gallardi*, *C. kartana* (s. *O. kartana*), *C. leptos* (s. *O. leptos*) and *C. parma* (s. *O. parma*). Of the three other species formerly assigned to *Cyclostrongylus*, *C. clelandi* belongs to another genus, *C. dissimilis* belongs to *Macropostrongyloides*, and *C. medioannulatus* (of which no specimen can be found) is regarded as *sp. inq.*

Introduction

The genus *Cyclostrongylus* was erected in 1939 to include four species, *C. wallabiae*, *C. clelandi*, *C. gallardi* and, doubtfully, *C. dissimilis*. *C. medioannulatus* was added by Johnston & Mawson (1940). These species were similar in having a cuticular collar around the anterior end, a deep buccal cavity and, in the first three, an oesophagus of distinctive shape. The walls of the buccal cavity showed different degrees of thickening.

The types of these species, and fresh material of *C. dissimilis* and *C. clelandi*, have been examined, and it is now possible to clarify the position of the genus.

Results

The most striking fact emerging from this study is that the type species of *Cyclostrongylus* (*C. wallabiae*) is identical with the type species of *Oesophagonastes*, *O. gallardi* (Johnston & Mawson 1942), described from the same host species and from a relatively close locality in New South Wales. *Oesophagonastes* now becomes a synonym of *Cyclostrongylus*, and the species assigned to *Oesophagonastes* must be transferred to *Cyclostrongylus*.

Some of the species originally placed in *Cyclostrongylus* vary considerably from the type, and are not now considered as valid species of the genus. These are:

C. clelandi in which the shape of the oesophagus and of the cephalic papillae are quite different, and in which the walls of the buccal cavity do not appear to be sclerotized at all. A new genus will be necessary for this species (in preparation).

C. dissimilis described from a single damaged male specimen is now referred to *Macropostrongyloides* because of the shape of the oesophagus, tail, and bursa. It differs from other *M.* spp. in having very long spicules. The specimen was apparently moribund when collected, and the buccal capsule is atypical. Several specimens of *Macropostrongyloides* have recently been found in which the buccal capsule is in a similar condition.

In the case of *C. medioannulatus*, the specimen labelled as type is a female *Rugopharynx australis*, obviously placed in the tube in error. No representative of *C. medioannulatus* has been found, and the species must be regarded as a *species inquirendum*.

A revised diagnosis of *Cyclostrongylus* and a key to the valid species follows.

Trichonematidae: Small worms, anterior end with more or less well developed cuticular collar pierced by amphids and cephalic papillae; well developed usually transversely striated buccal capsule; oesophagus with anterior cylindrical part followed by constriction surrounded by nerve ring, before terminal bulb; cervical

* Department of Zoology, University of Adelaide, North Tee, Adelaide, 5000.

papillae setiform, near nerve ring. Male: bursa not deeply lobed, externo-dorsal ray arising separately or with laterals, dorsal ray bifurcate each branch giving off a lateral stem. Female: tail more or less conical, vulva near anus.

Parasites of stomach or oesophagus of macropod marsupials. Type species *C. wallabiae* Johnston & Mawson, 1939 (syn. *Pharyngostrongylus gallardi* Johnston & Mawson, 1942; *Spirostrongylus gallardi*: Mawson, 1955; *Oesophagonastes gallardi*: Mawson, 1965). From *Macropus bicolor*, N.S.W.

Other species:

C. gallardi Johnston & Mawson, 1939. From *M. rufogriseus*, N.S.W.

C. kartana (Mawson 1955), (syn. *Spirostrongylus kartana*; *Oesophagonastes kartana*: Mawson, 1965). From *M. eugenii*, S. Aust., and *M. rufogriseus*, Qld.

C. leptos (Mawson 1965), (syn. *Oesophagonastes leptos*). From *Macropus dorsalis*, Qld.

C. parma (Johnston & Mawson 1939), syn. *Pharyngostrongylus parma*; *Spirostrongylus parma*: Mawson, 1955; *Oesophagonastes parma*: Mawson, 1965. From *Macropus parma*, N.S.W.

This genus differs from *Rugopharynx* Mönnig mainly in the presence of a cuticular collar, in the shape of the oesophagus, and in the shape and character of the bursa.

Key to species of *Cyclostrongylus*

1. Buccal capsule wall wider anteriorly than posteriorly 2
Wall of buccal capsule not markedly wider anteriorly 4
2. Cuticular collar not well developed
Cuticular collar well developed 3
3. Buccal capsule short, about equal to its external diameter at anterior end *C. wallabiae*
Buccal capsule long, at least twice external diameter at anterior end *C. kartana*
4. Cuticular collar well developed; buccal capsule wider than long *C. gallardi*
Cuticular collar not well developed; buccal capsule wider than long *C. leptos*

References

- JOHNSTON, T. H. & MAWSON, P. M. (1939).—Strongylate nematodes from marsupials in New South Wales. *Proc. Linn. Soc. N.S.W.* **64**, 514-536.
- JOHNSTON, T. H. & MAWSON, P. M. (1940).—New and known nematodes from Australian marsupials. *Proc. Linn. Soc. N.S.W.* **65**, 468-476.
- JOHNSTON, T. H. & MAWSON, P. M. (1942).—The Gallard Collection of parasitic nematodes in the Australian Museum. *Rec. Aust. Mus.* **21**, 110-115.
- MAWSON, P. M. (1965).—Notes on some species of nematodes from kangaroos and wallabies, including a new genus and three new species. *Parasitol.* **55**, 145-162.